

SEMICONDUCTOR LASER DEVICE

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Abstract

PURPOSE:To make it possible to perform driving at constant output power effectively all the time and to reduce noise by negative feedback, by effectively inputting part of output light into a built-in PIN photodiode through a glass window in a cap, which is provided in a slant attitude, and taking out a monitoring current.

CONSTITUTION:Light which is emitted from the front end surface of a laser chip 1 strikes a glass window, and most of the light becomes the forward output light. Part of the light is inputted into a built-in PIN photodiode as reflected light 25, and a monitoring current is generated. On the inside of the glass window 7, metal or dielectric such as Al or Ag is evaporated very thinly. For example, about 10-30% of the total output light from the front end surface of the chip 1 becomes the reflected light 25. The remaining part becomes the forward output light 24. The inclination of the glass window 7 and the inclination from an angle which is in parallel with the emitting end surface of the chip are set as follows. When the inclination from an angle which is in parallel with the emitting end surface of the chip 1 is made to be, e.g., 20-45 degrees, noise is suppressed, and the noise is excellently eliminated.

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